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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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|----------------------------|---|----------------------------------|
| In re Application of: | : | Before the Examiner: |
| Lyle et al. | : | Ghebretinsae, Temesghen |
| | : | |
| Serial No.: 10/064,269 | : | Group Art Unit: 2611 |
| | : | |
| Filing Date: June 27, 2002 | : | |
| | : | |
| Title: INSERTION OF NULL | : | IBM Corporation |
| PACKETS TO MITIGATE THE | : | Dept. T81/Bldg. 503 |
| EFFECTS OF INTERFERENCE | : | P.O. Box 12195 |
| IN WIRELESS | : | 3039 Cornwallis Road |
| COMMUNICATIONS | : | Research Triangle Park, NC 27709 |

APPEAL BRIEF

Mail Stop Appeal Brief-Patents
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

I. REAL PARTY IN INTEREST

The real party in interest is International Business Machines Corporation, which is the assignee of the entire right, title and interest in the above-identified patent application.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellants, Appellants' legal representative or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-20 are pending in the Application. Claims 1-20 stand rejected. Claims 1-20 are appealed.

IV. STATUS OF AMENDMENTS

Appellants have not submitted any amendments following receipt of the final office action with a mailing date of January 16, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1:

In one embodiment of the present invention, in a wireless communications system providing for communication over two or more channels utilizing a communications architecture that calls for hopping from channel to channel during data transmission, a method for mitigating the effects of interference, the method comprising the step of scanning the channels for interference and identifying channels experiencing interference. Specification, page 5, paragraph [0021], lines 1-9; Specification, page 6, paragraph [0023], lines 2-7. The method further comprises transmitting only null packets when hopping to a channel identified as experiencing interference. Specification, page 6, paragraph [0023], lines 4-6. The method further comprises transmitting normal data when hopping to a channel not identified as experiencing interference. Specification, page 6, paragraph [0023], lines 6-7.

Independent Claim 12:

In one embodiment of the present invention, in a wireless communications system providing for communication in the ISM communications frequency band by a communications device operating according to the Bluetooth standard, a method for mitigating the effects of interference, the method comprising the step of upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference. Specification, page 5, paragraph [0020], lines 1-6; Specification, page 5, paragraph [0021], lines 1-9; Specification, page 7, paragraph [0025], lines 1-4; Figure 4A. The method further comprises transmitting only null packets when hopping to a channel identified as experiencing interference. Specification, page 6, paragraph [0023], lines 4-6. The method further comprises

transmitting normal data when hopping to a channel not identified as experiencing interference. Specification, page 6, paragraph [0023], lines 6-7.

Independent Claim 17:

In one embodiment of the present invention, in a wireless communication system providing for communication in the ISM communications frequency band by a communications device operating according to the IEEE 802.15.1 standard, a method for mitigating the effects of interference, the method comprising the step of upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference. Specification, page 5, paragraph [0020], lines 1-6; Specification, page 5, paragraph [0021], lines 1-9; Specification, page 7, paragraph [0025], lines 1-4; Figure 4A. The method further comprises transmitting only null packets when hopping to a channel identified as experiencing interference. Specification, page 6, paragraph [0023], lines 4-6. The method further comprises transmitting normal data when hopping to a channel not identified as experiencing interference. Specification, page 6, paragraph [0023], lines 6-7.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gan et al. (U.S. Patent No. 7,027,418) (hereinafter "Gan").

B. Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Treister et al. (U.S. Patent Application Publication No. 2002/0116460) (hereinafter "Treister").

VII. ARGUMENT

A. Claims 1-20 are not properly rejected under 35 U.S.C. §103(a) as being unpatentable over Gan.

The Examiner rejects claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Gan. Office Action (1/16/2007), page 2. Appellants respectfully traverse for at least the reasons stated below.

1. Examiner's lack of motivation in modifying Gan to include the missing claim limitation of claims 1, 12 and 17.

The Examiner admits that Gan does not teach "transmitting only null packets when hopping to a channel identified as experiencing interference" as recited in claim 1 and similarly in claims 12 and 17. The Examiner states:

Gan differs from the claims invention in that he does not transmit only null data when hopping to a channel identified as experiencing interference (bad channels). The reasoning behind it is that to avoid the need to re-transmit packets or data, which are lost due to being transmitted on channels experiencing interference (bad channels). Thus, transmitting null data on channels experiencing interference (bad channels) is an obvious design choice (or functionally equivalent) to not transmit on channels experiencing interference since on both concepts the data that have been transmitted on the channels that experience interference will be either lost or ignored. (See Gan col. 3, lines 16-20). Office Action (1/16/2007), page 3.

Appellants respectfully traverse. Appellants respectfully assert that the Examiner must provide a motivation or suggestion for modifying Gan to include the above-cited missing claim limitation in order to support a *prima facie* case of obviousness. M.P.E.P. §§2142-2143. The Examiner has not provided any motivation or suggestion, but instead, simply asserts that it is a matter of design choice to modify Gan to incorporate the missing claim limitation of claims 1, 12 and 17. The Examiner has not cited to any case law or any M.P.E.P. section that allows the Examiner to present a *prima facie* case of obviousness by simply asserting that it would have been a matter of design choice to modify Gan to incorporate the missing claim limitation of claims 1, 12 and 17 without providing any objective evidence to support such a proposition.

The Examiner's basis for asserting that it is a matter of design choice to modify Gan to incorporate the missing claim limitation of claims 1, 12 and 17 is that the Examiner equates transmitting null packets to not transmitting on channels experiencing interference. Gan teaches that channels may be classified by comparing the test results to the performance criteria. Column 6, lines 18-19. Gan further

teaches that for example, the performance criteria may be a specified value, or a specified threshold. Column 6, lines 19-21. Gan additionally teaches that if the bit error rate (BER) for a channel exceeds the specified threshold, the channel is classified as "good," whereas channels with a BER that does not exceed the specified threshold are classified as "bad." Column 6, lines 21-24. Furthermore, Gan teaches that after classifying the performance of the channels, a set of channels (set of good channels) is selected based on the selection criteria. Column 6, lines 30-31. Hence, Gan teaches classifying the performance of the channels and selecting a set of good channels. There is no suggestion in Gan to transmit null packets when hopping to a channel identified as experiencing interference. Instead, Gan simply teaches to not transmit on channels identified as being bad.

The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Gan's teaching of not transmitting on channels identified as being bad equates with transmitting only null packets when hopping to a channel identified as experiencing interference. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Gan's teaching of not transmitting on channels identified as being bad equates with transmitting only null packets when hopping to a channel identified as experiencing interference, and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 12 and 17. M.P.E.P. §2143.

Further, the Examiner cites column 3, lines 16-20 of Gan as support for the Examiner's basis that transmitting null packets is equivalent to not transmitting on channels experiencing interference. Gan teaches that interference results in data transmission errors, such as an increase in the bit error rate (BER) or the loss of data packets, resulting in reduced transmission quality and performance and the need to retransmit the data. Column 3, lines 16-20. There is no language in the cited passage

that provides a basis for equating not transmitting on channels identified as being bad with transmitting only null packets when hopping to a channel identified as experiencing interference. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Gan's teaching of reduced transmission quality and performance resulting from data transmission errors equates with transmitting only null packets when hopping to a channel identified as experiencing interference. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Gan's teaching of reduced transmission quality and performance resulting from data transmission errors equates with transmitting only null packets when hopping to a channel identified as experiencing interference, and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 12 and 17. M.P.E.P. §2143.

2. Gan does not teach or suggest the following claim limitations in the independent claims.

Appellants respectfully assert that Gan does not teach or suggest "upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference" as recited in claim 12 and similarly in claim 17. As understood by Appellants, the Examiner cites the Abstract and column 17, lines 11-34 of Gan as teaching the above-cited claim limitation. Office Action (1/16/2007), page 2. Appellants respectfully traverse.

Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally teaches that the set of communications channels is selected based on one or more

selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication system.

There is no language in the cited passages that teaches upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 12 and 17, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

3. Claims 2-11, 13-16 and 18-20 are patentable over Gan for at least the reasons that claims 1, 12 and 17, respectively, are patentable over Gan.

Claims 2-11 each recite combinations of features of independent claim 1, and hence claims 2-11 are patentable over Gan for at least the above-stated reasons that claim 1 is patentable over Gan.

Claims 13-16 each recite combinations of features of independent claim 12, and hence claims 13-16 are patentable over Gan for at least the above-stated reasons that claim 12 is patentable over Gan.

Claims 18-20 each recite combinations of features of independent claim 17, and hence claims 18-20 are patentable over Gan for at least the above-stated reasons that claim 17 is patentable over Gan.

4. Gan does not teach or suggest the following claim limitations of the dependent claims.
 - a. Claim 2 is patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is performed upon the commencement of data transmission" as recited in claim 2. The Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claim 2. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and column 17, lines 11-34 of Gan teach the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally teaches that the set of communications channels is selected based on one or more selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication system.

There is no language in the cited passages that teaches that the scanning step is performed upon the commencement of data transmission. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 2, since the

Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

b. Claim 3 is patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is performed upon each passage of a first time period" as recited in claim 3. The Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claim 3. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and column 17, lines 11-34 of Gan teach the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally teaches that the set of communications channels is selected based on one or more selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication

system.

There is no language in the cited passages that teaches that the scanning step is performed upon each passage of a first time period. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 3, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

c. Claims 4 and 13 are patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is repeated periodically during data transmission" as recited in claim 4 and similarly in claim 13. The Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claims 4 and 13. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and column 17, lines 11-34 of Gan teach the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally teaches that the set of communications channels is selected based on one or more selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further

teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication system.

There is no language in the cited passages that teaches that the scanning step is repeated periodically during data transmission. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 4 and 13, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

d. Claims 5, 12 and 18 are patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is performed when a data throughput rate falls below a predefined value" as recited in claim 5 and similarly in claims 12 and 18. The Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claims 5, 12 and 18. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and column 17, lines 11-34 of Gan teach the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant

generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally teaches that the set of communications channels is selected based on one or more selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication system.

There is no language in the cited passages that teaches that the scanning step is performed when a data throughput rate falls below a predefined value. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 5, 12 and 18, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

e. Claims 6, 15 and 19 are patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is performed when requested by a user" as recited in claim 6 and similarly in claims 15 and 19. The Examiner cites column 17, line 35 – column 18, line 67 of Gan as teaching the above-cited claim limitation. Office Action (1/16/2007), page 3. Appellants respectfully traverse.

Gan instead teaches that a good channel packet 400 includes a known preamble 410, a packet header 420, and a payload header 430. Column 17, lines 44-45. Gan further teaches that CRC 460 is a cyclic redundancy check value for verifying the accurate transmission of good channel packet 400. Column 17, lines 58-59. Gan additionally teaches that additional security protection may be included by sending the good channel information in an encrypted format to the other participants in the communications network. Column 18, lines 15-18. Further, Gan

teaches that the master of a FH communications system may track which slaves do and which slaves do not implement the adaptive FH approach. Column 18, lines 47-49.

There is no language in the cited passage that teaches that the scanning step is performed when requested by a user. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 6, 15 and 19, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

f. Claims 7, 16 and 20 are patentable over Gan.

Appellants respectfully assert that Gan does not teach or suggest "wherein the scanning step is repeated whenever: a) a second time period has passed; b) a data throughput rate falls below a predefined value; or c) requested by a user" as recited in claim 7 and similarly in claims 16 and 20. The Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Gan as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claims 7, 16 and 20. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and column 17, lines 11-34 of Gan teach the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches selecting a set of channels based on the results of performance testing and specified criteria. Abstract. Gan further teaches that the participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. Abstract. Gan additionally

teaches that the set of communications channels is selected based on one or more selection criteria, and data that indicates the selected set of channels is sent to other participants of the communications system. Column 17, lines 12-16. Gan further teaches that the master instructs the other participants when to begin using the selected set of channels. Column 17, lines 25-27. Hence, Gan teaches selecting a set of communication channels based on one or more selection criteria and sending data that indicates the selected set of channels to other participants of the communication system.

There is no language in the cited passages that teaches that the scanning step is repeated whenever: a second time period has passed; a data throughput rate falls below a predefined value; or requested by a user. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 7, 16 and 20, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Further, if the Examiner is asserting that column 17, line 35 – column 18, line 67 of Gan teaches the above-cited claim limitation, Appellants respectfully traverse. Gan instead teaches that a good channel packet 400 includes a known preamble 410, a packet header 420, and a payload header 430. Column 17, lines 44-45. Gan further teaches that CRC 460 is a cyclic redundancy check value for verifying the accurate transmission of good channel packet 400. Column 17, lines 58-59. Gan additionally teaches that additional security protection may be included by sending the good channel information in an encrypted format to the other participants in the communications network. Column 18, lines 15-18. Further, Gan teaches that the master of a FH communications system may track which slaves do and which slaves do not implement the adaptive FH approach. Column 18, lines 47-49.

There is no language in the cited passages that teaches that the scanning step is repeated whenever: a second time period has passed; a data throughput rate falls below a predefined value; or requested by a user. Therefore, the Examiner has not

presented a *prima facie* case of obviousness in rejecting claims 7, 16 and 20, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

B. Claims 1-20 are not properly rejected under 35 U.S.C. §103(a) as being unpatentable over Treister.

The Examiner rejects claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Treister. Office Action (1/16/2007), page 3. Appellants respectfully traverse for at least the reasons stated below.

1. Examiner's lack of motivation in modifying Treister to include the missing claim limitation of claims 1, 12 and 17.

The Examiner admits that Treister does not teach "transmitting only null packets when hopping to a channel identified as experiencing interference" as recited in claim 1 and similarly in claims 12 and 17. The Examiner states:

Treister differs from the claims invention in that he does not transmit only null data when hopping to a channel identified as experiencing interference (bad channels). Treister avoids transmitting data on channels that have been identified as experiencing interference (bad channels). The reasoning behind it is that to avoid the need to re-transmit packets or data, which are lost due to being transmitted on channels experiencing interference (bad channels). Thus, transmitting null data on channels experiencing interference (bad channels) is an obvious design choice (or functionally equivalent) to not transmitting on channels experiencing interference since on both concepts the data that have been transmitted on the channels that experience interference will be either lost or ignored. (See paragraph {0019}). Office Action (1/16/2007), pages 4-5.

Appellants respectfully traverse. Appellants respectfully asserts that the Examiner must provide a motivation or suggestion for modifying Treister to include the above-cited missing claim limitation in order to support a *prima facie* case of obviousness. M.P.E.P. §§2142-2143. The Examiner has not provided any motivation or suggestion, but instead, simply asserts that it is a matter of design choice to modify Treister to incorporate the missing claim limitation of claims 1, 12 and 17. The

Examiner has not cited to any case law or any M.P.E.P. section that allows the Examiner to present a *prima facie* case of obviousness by simply asserting that it would have been a matter of design choice to modify Treister to incorporate the missing claim limitation of claims 1, 12 and 17 without providing any objective evidence to support such a proposition.

The Examiner's basis for asserting that it is a matter of design choice to modify Treister to incorporate the missing claim limitation of claims 1, 12 and 17 is that the Examiner equates transmitting null packets to not transmitting on channels experiencing interference. Treister teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels. There is no suggestion in Treister to transmit null packets when hopping to a channel identified as experiencing interference.

The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Treister's teaching of not transmitting on channels identified as being bad equates with transmitting only null packets when hopping to a channel identified as experiencing interference. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Treister's teaching of not transmitting on channels identified as being bad equates with transmitting only null packets when hopping to a channel identified as experiencing interference, and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 12 and 17. M.P.E.P. §2143.

Further, the Examiner cites paragraph [0119] of Treister as support for the Examiner's basis that transmitting null packets is equivalent to not transmitting on channels experiencing interference. As stated above, Treister teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passage that provides a basis for equating not transmitting on channels identified as being bad with transmitting only null packets when hopping to a channel identified as experiencing interference. The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that Treister's teaching of selecting a particular channel based on selection criteria and avoiding bad channels equates with transmitting only null packets when hopping to a channel identified as experiencing interference. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that Treister's teaching of selecting a particular channel based on selection criteria and avoiding bad channels equates with transmitting only null packets when hopping to a channel identified as experiencing interference, and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 12 and 17. M.P.E.P. §2143.

2. Treister does not teach or suggest the following claim limitations in the independent claims.

Appellants respectfully assert that Treister does not teach or suggest "upon

power up of the device, scanning the available channels for interference and identifying channels experiencing interference" as recited in claim 12 and similarly in claim 17. As understood by Appellants, the Examiner cites the Abstract and paragraph [0119] of Treister as teaching the above-cited claim limitation. Office Action (1/16/2007), page 4. Appellants respectfully traverse.

Treister instead teaches that a particular channel is selected based on channel performance and channel identification data is provided to a participant that sends a response on a channel selected based on the channel identification data. Abstract. Treister additionally teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passages that teaches upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 12 and 17, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

3. Claims 2-11, 13-16 and 18-20 are patentable over Treister for at least the reasons that claims 1, 12 and 17, respectively, are patentable over Treister.

Claims 2-11 each recite combinations of features of independent claim 1, and hence claims 2-11 are patentable over Treister for at least the above-stated reasons that claim 1 is patentable over Treister.

Claims 13-16 each recite combinations of features of independent claim 12,

and hence claims 13-16 are patentable over Treister for at least the above-stated reasons that claim 12 is patentable over Treister.

Claims 18-20 each recite combinations of features of independent claim 17, and hence claims 18-20 are patentable over Treister for at least the above-stated reasons that claim 17 is patentable over Treister.

4. Treister does not teach or suggest the following claim limitations of the dependent claims.

a. Claim 2 is patentable over Treister.

Appellants respectfully assert that Treister does not teach or suggest "wherein the scanning step is performed upon the commencement of data transmission" as recited in claim 2. The Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claim 2. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and paragraph [0119] of Treister teach the above-cited claim limitation, Appellants respectfully traverse. Treister instead teaches that a particular channel is selected based on channel performance and channel identification data is provided to a participant that sends a response on a channel selected based on the channel identification data. Abstract. Treister additionally teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications

system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passages that teaches that the scanning step is performed upon the commencement of data transmission. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 2, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

b. Claim 3 is patentable over Treister.

Appellants respectfully assert that Treister does not teach or suggest "wherein the scanning step is performed upon each passage of a first time period" as recited in claim 3. The Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claim 3. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and paragraph [0119] of Treister teach the above-cited claim limitation, Appellants respectfully traverse. Treister instead teaches that a particular channel is selected based on channel performance and channel identification data is provided to a participant that sends a response on a channel selected based on the channel identification data. Abstract. Treister additionally teaches selecting a communications channel based on the

selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passages that teaches that the scanning step is performed upon each passage of a first time period. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 3, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

c. Claims 5, 12 and 18 are patentable over Treister.

Appellants respectfully assert that Treister does not teach or suggest "wherein the scanning step is performed when a data throughput rate falls below a predefined value" as recited in claim 5 and similarly in claims 12 and 18. The Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claims 5, 12 and 18. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and paragraph [0119] of Treister teach the above-cited claim limitation, Appellants respectfully traverse. Treister instead teaches that a particular channel is selected based on channel

performance and channel identification data is provided to a participant that sends a response on a channel selected based on the channel identification data. Abstract. Treister additionally teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passages that teaches that the scanning step is performed when a data throughput rate falls below a predefined value. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 5, 12 and 18, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

d. Claims 6, 15 and 19 are patentable over Treister.

Appellants respectfully assert that Treister does not teach or suggest "wherein the scanning step is performed when requested by a user" as recited in claim 6 and similarly in claims 15 and 19. The Examiner cites paragraphs [0119 and 0131] of Treister as teaching the above-cited claim limitation. Office Action (1/16/2007), page 4. Appellants respectfully traverse.

Treister instead teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission errors and lost packets. [0119]. Treister further teaches that channel performance may be initially set at a specified initial value. [0131].

There is no language in the cited passage that teaches that the scanning step is

performed when requested by a user. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 6, 15 and 19, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

e. Claims 7, 16 and 20 are patentable over Treister.

Appellants respectfully assert that Treister does not teach or suggest "wherein the scanning step is repeated whenever: a) a second time period has passed; b) a data throughput rate falls below a predefined value; or c) requested by a user" as recited in claim 7 and similarly in claims 16 and 20. The Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation. The Examiner is reminded that in order to establish a *prima facie* case of obviousness, the Examiner must provide a reference or combination of references that teaches or suggests all of the claim limitations. M.P.E.P. §2143. The Examiner cannot ignore claim language. All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has not cited to any passage in Treister as teaching the above-cited claim limitation, the Examiner has not established a *prima facie* case of obviousness in rejecting claims 7, 16 and 20. M.P.E.P. §2143.

Further, if the Examiner is asserting that the Abstract and paragraph [0119] of Treister teach the above-cited claim limitation, Appellants respectfully traverse. Treister instead teaches that a particular channel is selected based on channel performance and channel identification data is provided to a participant that sends a response on a channel selected based on the channel identification data. Abstract. Treister additionally teaches selecting a communications channel based on the selection criteria. [0119]. Treister further teaches that by selecting a particular participant for whom the communications channel is good, the communications system performing the channel selection may avoid using bad channels resulting in increased throughput for the communications system by minimizing transmission

errors and lost packets. [0119]. Hence, Treister teaches selecting a particular channel based on selection criteria and avoiding bad channels.

There is no language in the cited passages that teaches that the scanning step is repeated whenever: a second time period has passed; a data throughput rate falls below a predefined value; or requested by a user. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 7, 16 and 20, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

VIII. CONCLUSION

For the reasons noted above, the rejections of claims 1-20 are in error. Appellants respectfully request reversal of the rejections and allowance of claims 1-20.

Respectfully submitted,

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CLAIMS APPENDIX

1. In a wireless communications system providing for communication over two or more channels utilizing a communications architecture that calls for hopping from channel to channel during data transmission, a method for mitigating the effects of interference, the method comprising:

scanning the channels for interference and identifying channels experiencing interference;

transmitting only null packets when hopping to a channel identified as experiencing interference; and

transmitting normal data when hopping to a channel not identified as experiencing interference.

2. The method of claim 1 wherein the scanning step is performed upon the commencement of data transmission.

3. The method of claim 1 wherein the scanning step is performed upon each passage of a first time period.

4. The method of claim 2 wherein the scanning step is repeated periodically during data transmission.

5. The method of claim 1 wherein the scanning step is performed when a data throughput rate falls below a predefined value.

6. The method of claim 1 wherein the scanning step is performed when requested by a user.

7. The method of claim 2 wherein the scanning step is repeated whenever:

- a) a second time period has passed;
- b) a data throughput rate falls below a predefined value; or
- c) requested by a user.

8. The method of claim 1 wherein the communication architecture is the standard known as Bluetooth.
9. The method of claim 1 wherein the communication architecture is the standard known as IEEE 802.15.1.
10. The method of claim 7 wherein the communication architecture is the standard known as Bluetooth.
11. The method of claim 7 wherein the communication architecture is the standard known as IEEE 802.15.1.
12. In a wireless communications system providing for communication in the ISM communications frequency band by a communications device operating according to the Bluetooth standard, a method for mitigating the effects of interference, the method comprising:
 - upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference;
 - transmitting only null packets when hopping to a channel identified as experiencing interference; and
 - transmitting normal data when hopping to a channel not identified as experiencing interference.
13. The method of claim 12 wherein the scanning step is repeated periodically during data transmissions.
14. The method of claim 12 wherein the scanning step is performed when a data throughput rate falls below a predefined value.
15. The method of claim 12 wherein the scanning step is performed when requested by a user.
16. The method of claim 12 wherein the scanning step is repeated whenever:

- a) a third time period has passed;
- b) a data throughput rate falls below a predefined value; or
- c) requested by a user.

17. In a wireless communication system providing for communication in the ISM communications frequency band by a communications device operating according to the IEEE 802.15.1 standard, a method for mitigating the effects of interference, the method comprising:

upon power up of the device, scanning the available channels for interference and identifying channels experiencing interference;

transmitting only null packets when hopping to a channel identified as experiencing interference; and

transmitting normal data when hopping to a channel not identified as experiencing interference.

18. The method of claim 17 wherein the scanning step is performed when a data throughput rate falls below a predefined value.

19. The method of claim 17 wherein the scanning step is performed when requested by a user.

20. The method of claim 17 wherein the scanning step is repeated whenever:

- a) a fourth time period has passed;
- b) a data throughput rate falls below a predefined value; or
- c) requested by a user.

EVIDENCE APPENDIX

No evidence was submitted pursuant to §§1.130, 1.131, or 1.132 of 37 C.F.R. or of any other evidence entered by the Examiner and relied upon by Appellants in the Appeal.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings to the current proceeding.

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